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sented by the elongation of their pedicels, and shed their pollen. After dehiscence they become deflexed and are succeeded by others which go through the same process. After all have matured, the cluster falls off—unless the pistil has been fertilized, and this seems never to occur, through imperfect development, in plants artificially grown. During this successive development of the stamens, the pedicel of the pistillate flower elongates sufficiently to cause the entire ovary to be exposed.

Growing in our laboratory, this plant is covered when in flower by myriads of minute red ants (*Myrmica molesta*), which may be seen, three or four at a time, with their heads thrust to the very bottom of the nectaries, giving most eloquent testimony to the presence of nectar. Crawling back and forth over each cluster, and from cluster to cluster, they cover everything with pollen, and would thus fertilize the pistillate flowers were they not abortive.

In a state of nature it is probable that each cluster would possess a well developed pistillate flower, which could not, from its earlier maturity, be fertilized by pollen from stamens of the same cluster. The small flies that are known to fertilize many species of *Euphorbia*, or small bees, to either of which the nectaries of this species seem well suited, would probably carry pollen from cluster to cluster in a given plant; they would also, in flying from one plant to another, effect crossing in its truest sense. In any case, crossing *must* occur between distinct flower clusters.

W. TRELEASE.

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§ 349. **Pursh's Station for *Scolopendrium* rediscovered by the Syracuse Botanical Club.**—A member of the Torrey Botanical Club, a dear lover of Ferns, has a high regard for Pursh, whom he thinks hardly used as regards the trustworthiness of his localities, and always rejoices when he is proved right where he has been doubted. The news we have to offer will greatly exhilarate our friend, with whom we must confess a secret sympathy. Before giving the rediscovery of the locality, however, let us extract from Pursh's Journal, which was discovered among the papers of Dr. B. S. Barton by Mr. Thos. P. James, at the time acting Librarian of the American Philosophical Society in Philadelphia, which had come into possession of the Journal along with Dr. Barton's Herbarium. It was published in Philadelphia by Mr. James in 1869, and to his kindness we owe our copy. It is a "Journal of a Botanical Excursion in the northeastern parts of the States of Pennsylvania and New York, during the year 1807."

July 20.—"Mr. Geddes brought me to a deep valley about one mile from his house, where we ascended a steep very rocky hill; here large masses of rocks seem to be piled up, or tumbled over one and another in such a confused manner that it has left large chasms between them, which sometimes appear like caves; as it has a north aspect and overshadowed with trees, all the rocks are covered with moss and vegetables: and I suppose this must be a very interesting place for the botanist in the spring, the walking is very precarious, as

in some places large holes are hid by weeds & bushes, & every step, one is in danger of breaking a leg or falling into a gulph.—Here I found plenty of *Actea spicata*, chiefly with red berries, but some of the plants had beautifull white berries, looking like waxwork.—This is the Red & White Cohosh: the blue Cohosh likewise grows in plenty here. *Xylosteum tartaricum* is in abundance, *Ptelea trifoliata*, *Geranium Robertianum*, *Lonicera glauca*, with very narrow leaves, *Taxus baccata* or *procumbens* calld Ground Hemlock—*Polypodium Dryopteris* a species of *Clematis* seemingly new to me. *Satyrrium repens*—*Circæa alpina*—*Chrysosplenium alternifolium*—*Pyrola umbellata* in flower—*Arum triphyllum*, *Asplenium rhizophyllum* & what I thought the most of *Asplenium Scolopendrium*—this fern which I don't find mentioned by any one to grow in America I allways had a notion to be here; and indeed I was quit enjoyed to find my prejudice so well founded in truth."

We wish we had space to go on. He says a page or two before that Squire Geddes lives about six miles from Onondaga Hollow, northwest.

About 1830, Mr. William Cooper discovered the station at Chittenango Falls, more than twenty miles east of Onondago, and long the only known locality of the plant in America. In 1857, it was found at Owen Sound in Canada by Prof. William Hincks, and since then by others in the parts adjacent. In March, 1866, Mr. Lewis Foote found it about five miles south east from Syracuse, on the line of the Syracuse and Binghamton Railroad. In June of the same year, Mr. J. A. Paine, Jr., visiting that region for the purpose of verifying Pursh's station, found one or two others near Mr. Foote's on the talus of limestone cliffs near Little Lake, Green Pond and White Lake. On visiting Mr. George Geddes, son of the J. Geddes of Pursh, he was informed by that gentleman that the spot where it was first discovered was nearly five miles west of Syracuse and half a mile south of his father's house, near but not on the farm, along a high ledge ("Split Rock") about a celebrated sulphur spring. Split Rock is a limestone formation; "probably one hundred and fifty feet high and over half a mile long, semicircular, with a brook at its base on whose bank is the sulphur spring." The slope beneath the cliff, Mr. Paine says, was once a station favorable for Harts-tongue, but in consequence of clearing it is to be feared that plant has perished. Mr. Paine is probably right in concluding that Nuttall's is merely a confirmation of Pursh's habitat, and that the "Canadaigua" of the traditional label, which does not now exist, was a mistake for Onondaga. Vid. Amer. Jour. Sci. & Arts. 2nd. Ser. XLI., 417; XLII., 281; May & Sept. 1866. This fern has also been found at Chiapas, Mex. [Eaton.]

In a letter to the editor Mrs. Rust announces the re-discovery of this long sought locality, as follows:

SYRACUSE, Sept., 30th, 1879.

The Syracuse Botanical Club have been fortunate again in re-discovering the station on the Geddes farm for *Scolopendrium vulgare*.

We have just returned from a trip there to-day. As this ravine is on private grounds, we have not felt at liberty to go there to investigate it, as many of us have long wished to do; but when Miss Geddes invited several of us out to decide on her *Botrychium* which I have already written to you about, *B. Lunaria*, I said that I had long doubted *Solopendrium* ever having been found there, but now I believed it had, for the lime-stone cliffs were very like those near Jamesville Green Lake. But as a violent storm set in, we could not investigate them as we wished.

Mr. Geddes told me that his father had a pressed specimen which was found there by some great English botanist in his grandfather's time, but he thought it had all been uprooted, as so many botanists had been there in pursuit of it since and had been unsuccessful in finding any. Quite a number from other places who have been to me to direct them where to find it have told me that they had been on the Geddes farm but there was none there. Then too our State Botany says that Mr. Nuttall's specimens in the herbarium of the Academy of Sciences in Philadelphia are marked "near Canandaigua at Geddes' farm, in a shady wood, with *Taxus Canadensis*."

The Geddes farm is not in or *near* Canandaigua, but some five miles west of us, but *Scolopendrium* is there with *Taxus Canadensis*, *Camptosorus rhizophyllus*, *Asplenium Trichomanes*, *A. angustifolium* and many other common ferns, as I can testify, and what astonished us most was that there seemed to be quite a good deal of it.

MARY OLIVA RUST.

§ 350. *Scolopendrium vulgare* discovered in Tennessee.—A correspondent in Tennessee sent me a collection of ferns a few weeks ago to have them properly named. I must say they were a very hard looking lot, most of them being only represented by a single pinna. I was astonished to find among them a small piece of *Scolopendrium vulgare*, but quite enough to show the character of the species. In this collection I also found *Cheilanthes Alabamensis*, Kunze; *Cheilanthes vestita*, Swartz; *Cheilanthes tomentosa*, Link; *Woodwardia angustifolia*, Smith; *Woodwardia Virginica*, Smith; *Asplenium parvulum*, Mart. & Gale; *Asplenium Bradleyi*, D.C. Eaton; *Osmunda cinnamomea*, L, var. *frondosa*. The other ferns were those of general distribution.

Being interested more particularly in the *Scolopendrium*, I at once communicated with Mr. Cheatham, my correspondent, to send me good specimens, and as much information about the locality as he could give me.

A few days ago I received the following graphic description from my correspondent:

"Some two miles west of the Tennessee River, and about the same south-west from our new city of South Pittsburg, one quarter of a mile beyond the last flat or level at head of cove, as you start up the mountain, in the bed of the water course, and perhaps half up the mountain, sixty feet from the branch, and as much above its level, there is a fissure in the lime-stone strata, some sixty feet long and forty